

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: BABOOSIC LAKE	Lake Area (ha):	89.84
Town: AMHERST	Maximum depth (m):	7.9
County: Hillsborough	Mean depth (m):	3.0
River Basin: Merrimack	Volume (m ³):	2737500
Latitude: 42°53'02" N	Relative depth:	0.7
Longitude: 71°34'38" W	Shore configuration:	2.05
Elevation (ft): 231	Areal water load (m/yr):	3.28
Shore length (m): 6900	Flushing rate (yr ⁻¹):	1.10
Watershed area (ha): 621.6	P retention coeff.:	0.73
% watershed ponded: 1.6	Lake type:	natural

BIOLOGICAL:

4 February 1999

29 July 1998

DOM. PHYTOPLANKTON (% TOTAL)	#1	TABELLARIA 50%	OSCILLATORIA 55%
	#2	ASTERIONELLA 40%	DICTYOSPHAERIUM 15%
	#3	DINOBRYON 5%	ANABAENA 10%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			15.90
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 44%	KERATELLA 27%
	#2	KELICOTTIA 28%	CILIATE SPP 18%
	#3		POLYARTHRA 15%
ROTIFERS/LITER		15	152
MICROCRUSTACEA/LITER		3	45
ZOOPLANKTON ABUNDANCE (#/L)		18	246
VASCULAR PLANT ABUNDANCE			Common/Abun
SECCHI DISK TRANSPARENCY (m)			2.6
BOTTOM DISSOLVED OXYGEN (mg/L)		10.3	0.2
BACTERIA (E. coli, #/100 ml)	#1		5
	#2		3
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 3.5
Hypolimnion volume (m³): 27300
Anoxic volume (m³): 559300

CHEMICAL:

Lake: BABOOSIC LAKE

Town: AMHERST

	4 February 1999		29 July 1998		
DEPTH (m)	2.0	5.0	1.0	4.0	6.0
pH (units)	6.5	6.6	6.8	6.3	6.3
A.N.C. (Alkalinity)	10.1	11.7	10.1	10.1	17.8
NITRATE NITROGEN	0.12	0.09	0.06		0.06
TOTAL KJELDAHL NITROGEN	0.30	0.50	0.40	0.70	0.50
TOTAL PHOSPHORUS	0.006	0.008	0.017	0.047	0.030
CONDUCTIVITY (μ mhos/cm)	78.5	82.3	72.4	72.7	83.4
APPARENT COLOR (cpu)	18	22	42	50	110
MAGNESIUM			0.90		
CALCIUM			4.4		
SODIUM			7.8		
POTASSIUM			0.76		
CHLORIDE	13	14	12		12
SULFATE	5	5	3		2
TN : TP	70	74	27		19
CALCITE SATURATION INDEX			2.9		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1998

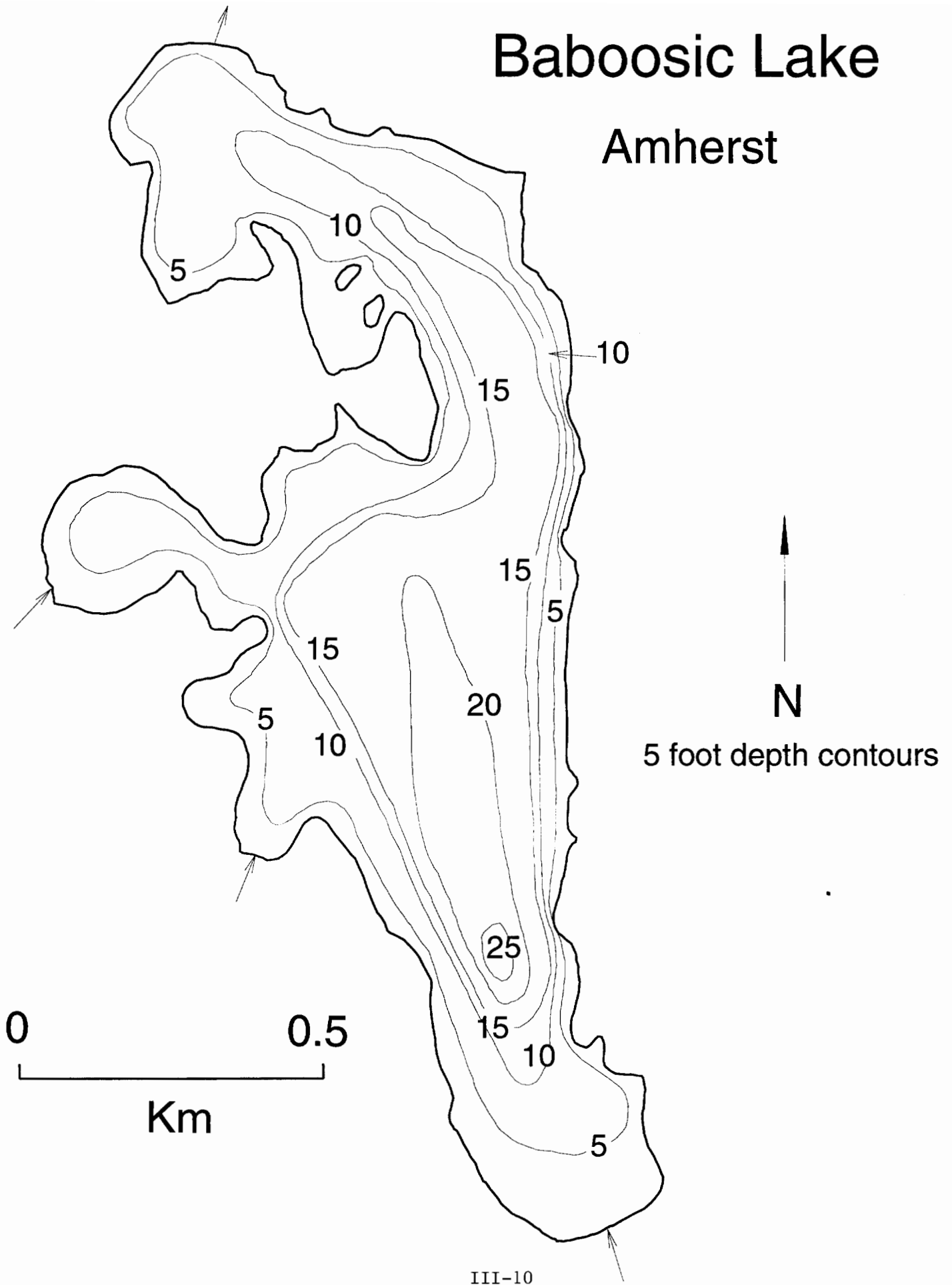
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
4	3	4	3	14	Eutro.

COMMENTS:

1. This pond was previously surveyed and classified in 1977 and 1993 and was rated mesotrophic in both years. In 1998 the chlorophyll value was 4 times the 1977 and 1993 values (3-4 to 16 mg/m^3), and the pond moved into the eutrophic class. More frequently-collected data is needed to determine if this is an aberration or a trend. A special diagnostic study of the pond was conducted in 1999 and will provide a more accurate picture of conditions throughout the year.
2. Heavily developed shoreline; no public launch site but a town beach was present.
3. Over 100 seagulls were observed at the time of the summer sampling.

Baboosic Lake

Amherst



[illegible]

TOWN: AMHERST
WEATHER: HAZY & CLOUDY; BREEZY; 80's

[illegible]

```

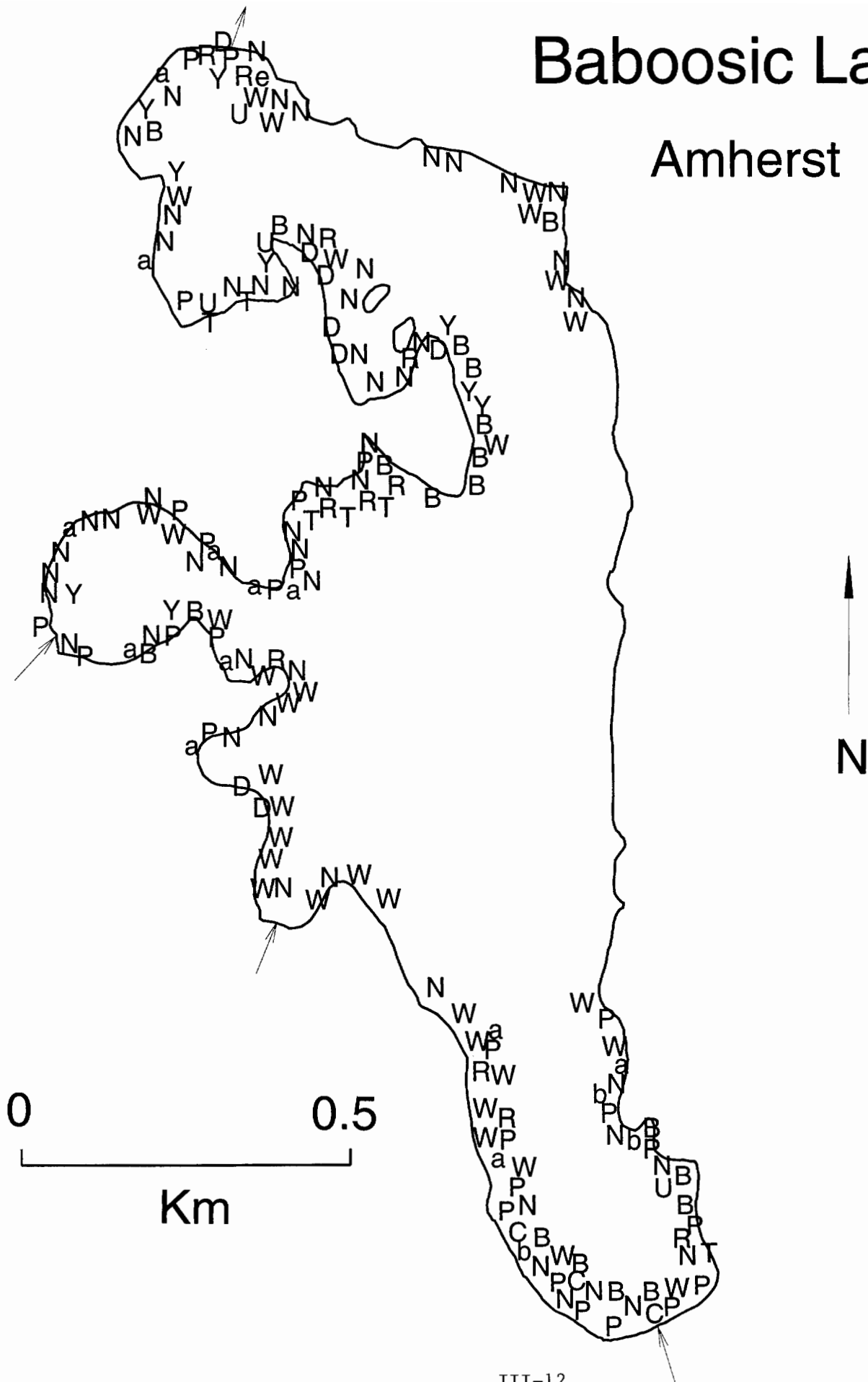
SECCHI DISK (m):      2.6           COMMENTS:
BOTTOM DEPTH (m):     7.0
TIME: 1130

```

*Dissolved oxygen values are in mg/L

Baboosic Lake

Amherst



III-12

[illegible]